

Exh. SAB-1T
Docket UE-19____
Witness: Stefan A. Bird

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,

Complainant,

v.

PACIFICORP dba
PACIFIC POWER & LIGHT COMPANY

Respondent.

Docket UE-19____

PACIFICORP

DIRECT TESTIMONY OF STEFAN A. BIRD

December 2019

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1 **I. INTRODUCTION OF WITNESS AND QUALIFICATIONS**

2 **Q. Please state your name, business address, and present position with PacifiCorp.**

3 A. My name is Stefan A. Bird, and my business address is 825 NE Multnomah Street,
4 Suite 2000, Portland, Oregon 97232. I am currently employed as President and Chief
5 Executive Officer of Pacific Power. I am testifying for PacifiCorp dba Pacific Power
6 & Light Company (PacifiCorp or the Company).

7 **Q. Please describe your education and professional experience.**

8 A. I hold a Bachelor of Science in mechanical engineering from Kansas State University.
9 I joined PacifiCorp in January 2007, and assumed my current position in January
10 2014. From 2003 to 2006, I served as president of CalEnergy Generation U.S., an
11 owner and operator of qualifying facilities (QF) and merchant generation assets,
12 including geothermal and natural gas-fired cogeneration projects across the United
13 States. From 1999 to 2003, I was vice president of acquisitions and development for
14 Berkshire Hathaway Energy Company, formerly known as MidAmerican Energy
15 Holdings Company. From 1989 to 1997, I held various positions at Koch Industries,
16 Inc., including energy marketing, financial services, corporate acquisitions, project
17 engineering, and maintenance planning in the Americas and Europe.

18 **II. PURPOSE OF TESTIMONY**

19 **Q. What is the purpose of your direct testimony in this case?**

20 A. My testimony provides an overview of PacifiCorp, its Washington service area, and
21 the strategies the Company is pursuing to provide its Washington customers with low-
22 cost, reliable, and non-emitting generation to power their homes, businesses, and
23 communities. I also explain the progress PacifiCorp has made since its last full

1 general rate case¹ and its 2015 limited-issue general rate case, docket UE-152253
2 (2015 Rate Case),² to deliver these essential customer benefits. Finally, I introduce
3 the Company witnesses that provide direct testimony in support of PacifiCorp's rate
4 request.

5 **III. DESCRIPTION OF PACIFICORP AND WASHINGTON SERVICE AREA**

6 **Q. Please provide a brief description of PacifiCorp.**

7 A. As an investor-owned, multi-jurisdictional electric utility, PacifiCorp serves nearly
8 two million customers in six western states: California, Idaho, Oregon, Utah,
9 Washington, and Wyoming. The Company serves its customers with a vast,
10 integrated system of generation and transmission that spans 10 states and connects
11 customers and communities across the west. PacifiCorp's integrated system provides
12 benefits to customers in all six states and includes generation, transmission, and
13 distribution assets. PacifiCorp owns, or has interests in thermal, hydroelectric, wind-
14 powered, solar, and geothermal generating facilities, with a net-owned capacity of
15 10,894 Megawatts (MW). PacifiCorp buys and sells electricity on the wholesale
16 market with other utilities, energy marketing companies, financial institutions, and
17 other market participants to balance and optimize the economic benefits of electricity
18 generation, retail customer loads, and existing wholesale transactions.

19 PacifiCorp provides wholesale transmission service under its open access
20 transmission tariff approved by the Federal Energy Regulatory Commission and owns
21 or has interests in approximately 16,500 miles of transmission lines. PacifiCorp

¹ *WUTC v. Pac. Power & Light Co.*, Docket No. UE-140762 (Mar. 25, 2015).

² *WUTC v. Pac. Power & Light Co.*, Docket No. UE-152253 (Sept. 1, 2016).

1 operates two Balancing Authority Areas (BAAs) – PacifiCorp East (PACE) and
2 PacifiCorp West (PACW) that together comprise the largest privately owned and
3 operated grid in the Western United States.

4 **Q. What are the advantages of PacifiCorp’s large regional footprint?**

5 A. PacifiCorp’s integrated system allows PacifiCorp to deliver low-cost generation from
6 some of the best renewable generation sites in the country to PacifiCorp’s
7 Washington customers, reducing power costs and emissions for customers, and
8 supporting local economies and communities throughout the west. As PacifiCorp
9 looks toward the future, there are even more opportunities for customers to benefit
10 from the connected west that PacifiCorp’s integrated system creates. These
11 opportunities may come from participation in a regional resource adequacy program
12 or expansion of markets that allow participants to more efficiently operate their
13 systems. PacifiCorp is and will remain actively engaged in finding additional ways to
14 leverage our vast, integrated system for the benefit of our customers.

15 **Q. Please describe PacifiCorp’s Washington service area.**

16 A. PacifiCorp serves approximately 137,000 Washington customers throughout Benton,
17 Columbia, Garfield, Kittitas, Yakima, and Walla Walla Counties. The Company’s
18 Washington service area is largely non-urban, with some of the lowest median income
19 levels in the state. PacifiCorp’s sales and revenues are distributed among residential
20 customers, small businesses, and large businesses served under retail tariffs subject to
21 the Commission’s jurisdiction. Table 1 below provides 2018 number of retail
22 customers and usage for each of the major customer classes that account for the
23 majority of the Company’s customer base.

**Table 1: Number of Customers and Usage
in PacifiCorp's Washington Service Area**

Class	Number of Customers	Usage (MWh)
Residential	112,292	1,547,792
Commercial	18,362	1,559,609
Industrial	558	749,767
Irrigation	5,136	164,796
Lighting	523	9,169
Total	136,870	4,031,134

1 **Q. What are some of the ways PacifiCorp engages with its communities and**
2 **customers within its Washington service area?**

3 A. PacifiCorp is a proud member of our Washington communities. During 2019, we
4 deepened our connection to our communities in a variety of ways.

5 For over 20 years, PacifiCorp has hosted the Merwin Special Kids Day. The
6 Merwin Special Kids day is a unique annual event held at the Company's Merwin
7 hydro generation facility that provides kids that would not otherwise have the
8 opportunity to go fishing an opportunity to visit our Merwin facility and fish for trout.
9 More than 100 kids and their families attended the 2019 event. PacifiCorp, its
10 employees, and their families look forward to hosting this event every year.

11 In June 2019, PacifiCorp also hosted an energy fair in downtown Yakima.
12 The energy fair allowed PacifiCorp to communicate its strategic outlook to local
13 businesses and the community, and to provide information about energy efficiency
14 offerings, local reliability upgrades, account services, renewable energy options,
15 electric vehicle charging station grants, and an electric vehicle ride and drive
16 opportunity.

17 For the ever-increasing engagement with customers who interact with us on
18 our digital platform, the Company overhauled its website to make customer

1 transactions faster, easier, and more secure. PacifiCorp also included an improved
2 outage map and status communications for customers.

3 The Company is also proud to have completed light emitting diode (LED)
4 street lighting upgrades for 18 communities to date, with several cities in the Yakima
5 area in progress. Conversion to LED technology street lighting lowers the costs to a
6 community.³ PacifiCorp coordinated incentives through its Wattsmart program with
7 Washington's Transportation Improvement Fund to provide communities an
8 opportunity to accelerate the conversion to LED.

9 These are just some of the examples of PacifiCorp's engagement with its
10 Washington customers and communities in 2019.

11 **Q. Please describe PacifiCorp's core principle with respect to providing service to**
12 **customers.**

13 A. PacifiCorp's core principle is to provide sustainable energy solutions in the form of
14 safe, reliable, and affordable energy to customers in Washington and throughout the
15 west. The Company has upheld this ideal for close to 110 years and remains steadfast
16 in this commitment even as the electricity sector transforms through public policies,
17 emerging and maturing technologies, and the rise of a regional energy market. The
18 Company is meeting the new demands of this transformation without losing focus on
19 its commitment to delivering safe, reliable, and affordable energy.

20 PacifiCorp is at a pivotal moment as our system adapts to changing market
21 conditions for generating resources, new state mandates such as the Clean Energy
22 Transformation Act (CETA), and increasing demand from customers for energy from

³ See Exhibit No. RMM-1T.

1 specific types of generating resources. PacifiCorp is uniquely positioned to respond
2 to these changes as the result of our geographically diverse generation footprint,
3 which is facilitated by our expansive transmission system.

4 **IV. COMPANY INVESTMENTS SINCE THE 2015 RATE CASE**

5 **Q. Please describe PacifiCorp's continuous adaptation to the changing energy**
6 **landscape while keeping electricity affordable.**

7 A. PacifiCorp partnered with the CAISO to create the Energy Imbalance Market (EIM),
8 and since the 2015 Rate Case, PacifiCorp has been working with stakeholders to
9 explore the potential for an Extended Day-Ahead Market (EDAM) and investing in
10 energy diversity in the west, which includes the Company's Energy Vision 2020
11 projects and transitioning Washington to a new cost allocation methodology through
12 the Washington Inter-Jurisdictional Allocation Methodology (WIJAM).

13 **Q. Please explain the EIM and EDAM.**

14 A. The EIM is a real-time bulk power trading market, which uses advanced market
15 systems to automatically find and deliver the lowest-cost energy to serve customer
16 demand on a real-time basis across a wide geographic area. Utilities voluntarily
17 participating in the EIM maintain control over their assets and remain responsible for
18 balancing requirements while sharing in the benefits the market produces. Additional
19 benefits of the EIM include improved situational awareness for increased reliability
20 and more effective integration of renewables and utilization of the transmission
21 system.

22 Since the CAISO and PacifiCorp, the first participants, launched the market in
23 November 2014, the EIM has produced benefits of \$801.7 million, as of

1 September 30, 2019.⁴ PacifiCorp customers’ share of the EIM benefits are an
2 estimated \$224.0 million.⁵ In addition to monetary benefits, participation in the EIM
3 has enabled PacifiCorp to operate its thermal generation fleet to more closely follow
4 variable-energy resources such as wind and solar. As a result of this change in
5 operation, in 2016 there was a step-change reduction in PacifiCorp’s carbon dioxide
6 (CO₂) emissions of approximately five million tons as compared to the 2011-2015
7 annual average emissions. This step-change reduction has been maintained through
8 2019—equaling an approximate reduction in CO₂ emissions of 20 million tons over
9 four years of EIM operation. Since its inception, nine utilities have joined the EIM,
10 and 11 more have committed to join by 2022. Together, this represents over 70
11 percent of the west’s total electricity demand. As market participation has grown, so
12 have the benefits to PacifiCorp customers and customers of other market participants.

13 More recently, the CAISO has launched a stakeholder process to explore the
14 expansion of the EIM to a day-ahead framework, the EDAM. The EDAM initiative
15 will develop an approach to extend participation in a day-ahead market to the EIM
16 entities in a framework similar to the existing EIM approach for the real-time market,
17 rather than requiring full integration into the CAISO BAA. The EDAM is expected
18 to improve market efficiency by integrating renewable resources using day-ahead unit
19 commitment and scheduling across a larger area. With an appropriate market design,
20 PacifiCorp expects that expansion of the EIM to the EDAM will be a critical
21 component to cost-effectively de-carbonize PacifiCorp’s system and integrate its

⁴ See BENEFITS, WESTERN ENERGY IMBALANCE MARKET, <https://www.westerneim.com/Pages/About/QuarterlyBenefits.aspx> (last visited Dec. 7, 2019).

⁵ *Id.*

1 aggressive renewable portfolio strategy set forth in the 2019 Integrated Resource Plan
2 (IRP).

3 **Q. Please explain how the Company is investing in energy diversity in the western
4 United States.**

5 A. PacifiCorp's Energy Vision 2020 is an energy resource strategy that takes advantage
6 of the extension of the federal production tax credits (PTCs) to invest in new wind
7 generation and transmission. These investments support an energy future that
8 decreases greenhouse gas emissions, while providing benefits to customers over the
9 lives of the resources. Please see the direct testimony of Mr. Rick T. Link for further
10 discussion of customer benefits associated with Energy Vision 2020.

11 Energy Vision 2020 consists of two major components, both of which are
12 included in this case: (1) wind repowering; and (2) investments in new wind and
13 transmission. These new projects deliver more wind generation to PacifiCorp's
14 system along with long-term savings for customers. Please see the direct testimony
15 of Mr. Timothy J. Hemstreet, Mr. Chad A. Teply, and Mr. Richard A. Vail, who
16 address repowering, the new wind generation projects, and transmission projects,
17 respectively, associated with Energy Vision 2020.

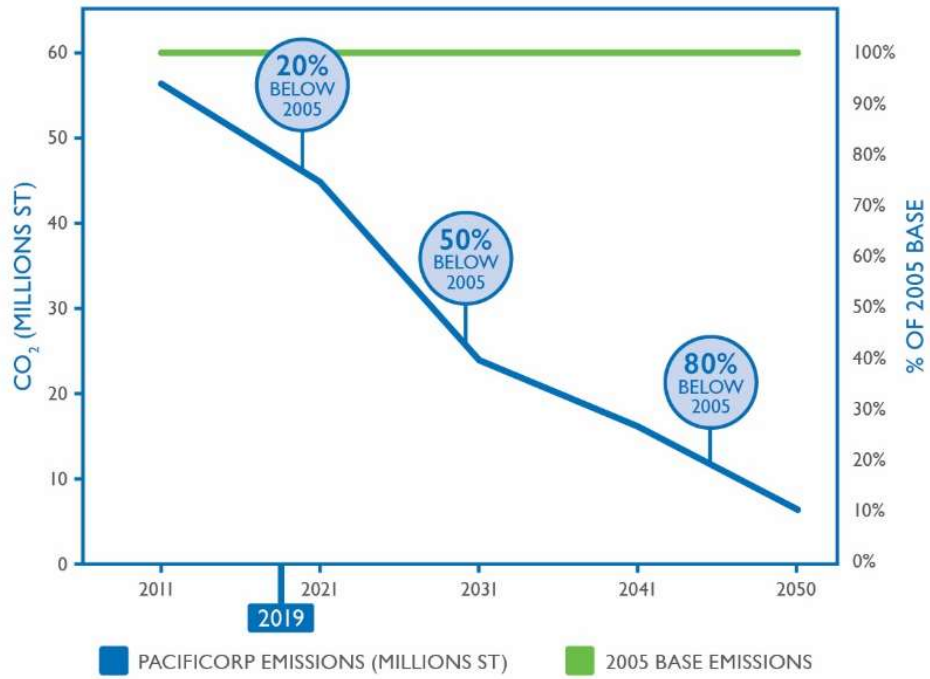
18 **Q. How is Energy Vision 2020 impacting the Company's energy diversity in the
19 western United States?**

20 A. The Energy Vision 2020 projects increase our non-emitting generation portfolio with
21 new and repowered wind generation resources and new transmission, while
22 leveraging federal PTCs to provide savings to customers over the life of the projects.

1 **Q. Will the 2019 IRP further increase the Company's energy diversity in the**
2 **western United States?**

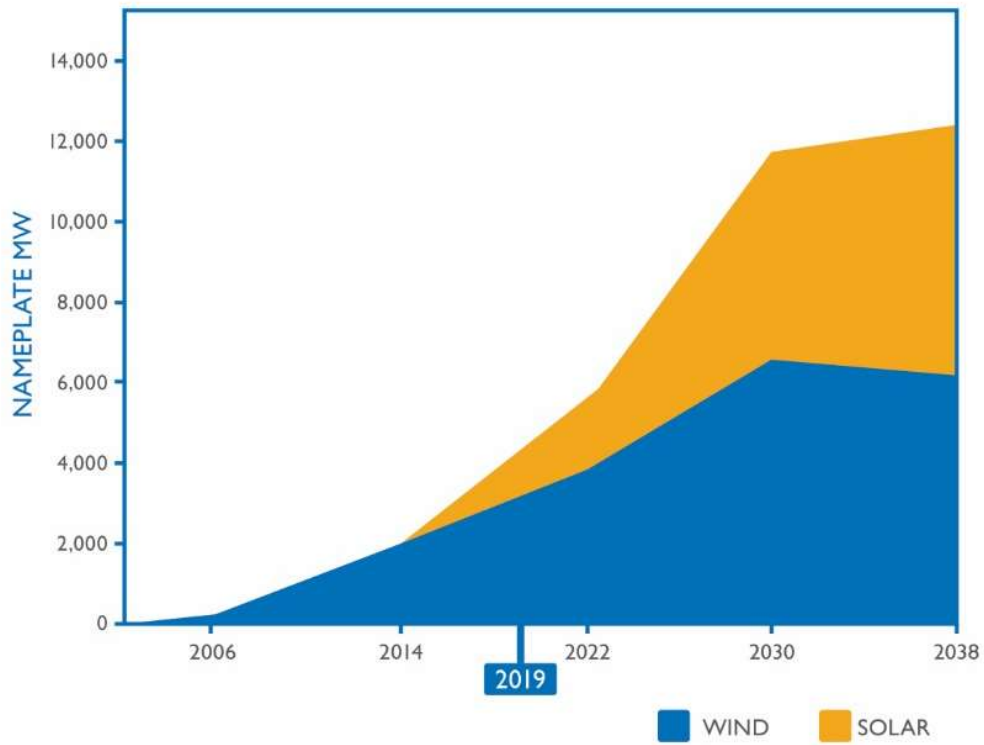
3 A. Yes. In the 2019 IRP, PacifiCorp's preferred portfolio indicates a need to further
4 expand its portfolio with new low-cost wind generation, solar generation, storage, and
5 demand-side resources to meet changing customer needs. PacifiCorp's IRP provides
6 the roadmap by which the Company will reduce greenhouse gas emissions over the
7 next 20 years. As reflected in the 2019 IRP, the Company will be investing in nearly
8 14,000 MW of new non-emitting generation and storage by 2038. Further, by 2030,
9 PacifiCorp will have reduced greenhouse gas emissions system-wide by nearly 60
10 percent from 2005 levels. Figure 1 shows the Emission Reductions, Wind and Solar
11 Capacity, and Energy Cost Savings associated with the 2019 IRP preferred portfolio.

Figure 1: Emission Reductions, Wind and Solar Capacity, and Energy Cost Savings⁶
EMISSIONS

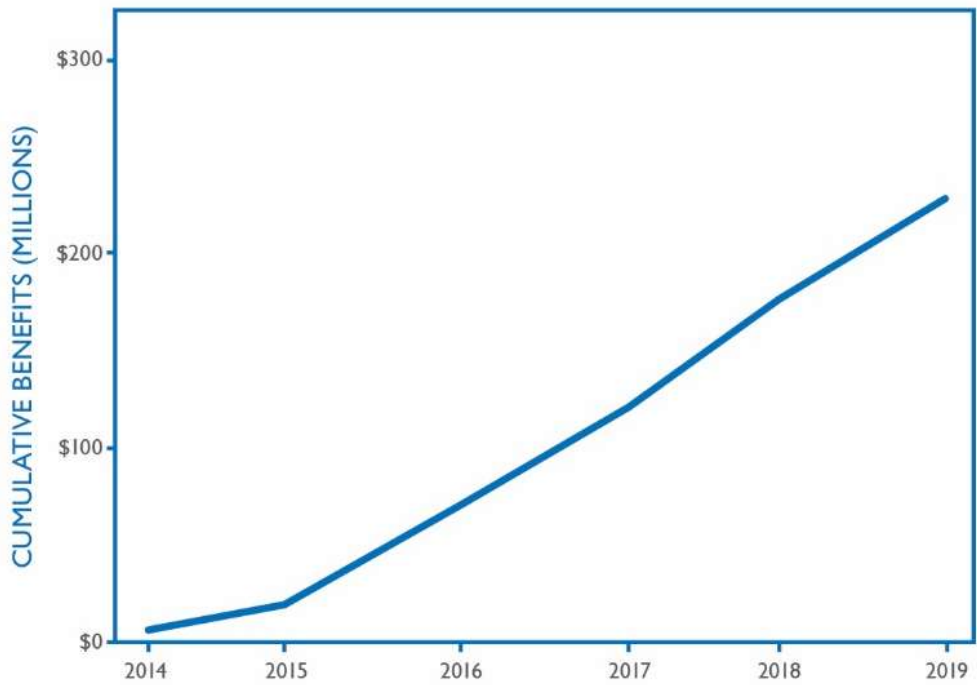


⁶ Source: PacifiCorp IRP filed on October 18, 2019, in Docket No. UE 180259.

WIND AND SOLAR CAPACITY



ENERGY COST SAVINGS



PACIFICORP ENERGY COST SAVINGS DUE TO EIM PARTICIPATION

1 **Q. Please describe how PacifiCorp's investment in these initiatives benefits**
2 **customers in Washington.**

3 A. PacifiCorp is uniquely situated to leverage economies of scale to invest in
4 non-emitting resources while simultaneously providing system savings to customers.
5 Participation in the EIM allows PacifiCorp to obtain the lowest-cost energy available
6 in near real-time, facilitating access to zero-fuel-cost energy to benefit the region and
7 Washington. If there is excess solar energy in California, excess wind in Wyoming,
8 or excess hydropower in the Pacific Northwest, the Company can transport that low-
9 cost energy across the grid and displace higher cost resources.

10 PacifiCorp's Energy Vision 2020 projects represent an investment not just in
11 decarbonizing PacifiCorp's generation portfolio and increasing the Company's
12 renewable capacity, but also in directly benefiting communities across the west. The
13 Energy Vision 2020 projects have created hundreds of construction jobs, and have
14 added millions of dollars in construction tax revenue and ongoing annual state and
15 local tax revenue in Washington, Oregon and Wyoming. In the past 13 years,
16 PacifiCorp has become the largest regulated owner of wind generation in the west.
17 From 2018 to 2020, the Company will have increased the percentage of non-emitting
18 resources in our portfolio by 70 percent.

19 **Q. Please explain the WIJAM.**

20 A. A critical component of PacifiCorp's adaptation to CETA, and a key element of this
21 general rate case filing, is aligning the benefits received by Washington customers
22 with the costs of PacifiCorp's integrated system. This new cost allocation
23 methodology assigns Washington the costs and benefits of PacifiCorp's full

1 transmission system as well as full access to all of PacifiCorp's non-emitting and
2 non-QF resources located across PacifiCorp's entire system. As discussed in the
3 testimonies of Ms. Etta Lockey and Mr. Michael G. Wilding, Washington's transition
4 to PacifiCorp's integrated system provides significant value for Washington
5 customers and establishes PacifiCorp's path for risk-adjusted, least-cost compliance
6 with CETA.

7 **V. INTRODUCTION OF COMPANY WITNESSES**

8 **Q. How is PacifiCorp presenting this case?**

9 A. PacifiCorp is presenting the following direct testimony in support of its rate case
10 filing:

- 11 • In Exhibit No. EL-1T, Etta Lockey, Vice President of Regulation,
12 will describe PacifiCorp's request in this proceeding and
13 summarize the regulatory policy of the Company.
- 14 • In Exhibit No. MGW-1T, Michael G. Wilding, the Company's
15 Director of Net Power Costs and Regulatory Policy, will provide a
16 description of the WIJAM and the nodal pricing model. Mr.
17 Wilding also provides the basis for the inclusion of PacifiCorp's
18 net power costs, as well as underlying analysis and discussion.
- 19 • In Exhibit No. AEB-1T, Ann E. Bulkley, economist and principal
20 at Concentric Energy Advisors, provides a comparison of
21 PacifiCorp's business and financial risk compared to peer utilities,
22 recommends a cost of equity and provides supporting analyses.
- 23 • In Exhibit No. NLK-1T, Nikki L. Kobliha, PacifiCorp's Chief
24 Financial Officer, will provide the Company's overall cost of
25 capital recommendation for the Company, including a capital
26 structure to maximize value and minimize risk.
- 27 • In Exhibit No. RTL-1CT, Rick T. Link, PacifiCorp's Vice
28 President of Resource Planning and Acquisition, provides the
29 economic analysis supporting the Energy Vision 2020 projects,
30 including wind repowering and the new wind and transmission
31 projects. This testimony also includes analyses of the Pryor
32 Mountain Wind Project, and includes the Company's load forecast.

- 1 • In Exhibit No. CAT-1T, Chad A. Teply, PacifiCorp’s Senior Vice
2 President of Business Policy and Development, provides an
3 overview of the development, implementation, and costs of the
4 Energy Vision 2020 Wind Projects, and the Pryor Mountain Wind
5 Project.
- 6 • In Exhibit No. TJH-1T, Timothy J. Hemstreet, the Company’s
7 Managing Director of Renewable Energy and Business
8 Development, provides an overview of the Energy Vision 2020
9 wind repowering project.
- 10 • In Exhibit No. RAV-1T, Richard A. Vail, Pacific Power’s Vice
11 President of Transmission Services will discuss the transmission
12 additions necessary to complement the wind generation portfolio
13 expansion as part of the Energy Vision 2020 projects, including
14 construction of the 500 kilovolt Aeolus-to-Bridger/Anticline
15 transmission line, and addresses other important system upgrades.
- 16 • In Exhibit No. SEM-1T, Shelley E. McCoy, PacifiCorp’s Revenue
17 Requirement Manager, summarizes the overall test year revenue
18 requirement, pro forma adjustments, and the rate base calculation
19 methodology.
- 20 • In Exhibit No. RMM-1T, Robert M. Meredith, Director of Pricing
21 and Cost of Service, provides PacifiCorp’s allocation and rate
22 design, discusses how the proposed tariff changes recovers the
23 proposed 2021 revenue requirement to achieve fair, just, and
24 reasonable prices for customers.
- 25 • In Exhibit No. RF-1T, Ryan Fuller, Senior Director of Tax,
26 describes PacifiCorp’s calculation of the benefits of the Tax Cuts
27 and Jobs Act and proposes certain changes to the Commission’s
28 treatment of certain tax items.
- 29 • In Exhibit No. MSN-1T, Melissa S. Nottingham, Manager of
30 Customer Advocacy, proposes updates to PacifiCorp’s
31 miscellaneous services and fees to reflect prices that are
32 reasonable, fair, and cost-based.
- 33 • In Exhibit No. ALB-1T, Allen L. Berreth, the Company’s Director
34 of Delivery Assurance, discusses wildfire risk and the Company’s
35 wildfire mitigation efforts in Washington.

36 **Q. Does this conclude your direct testimony?**

37 A. Yes, it does.